

In re Patent Application of:

OCKENFUSS ET AL.

Serial No. 10/785,384

Filed: 02/23/2004

Amendments to the Claims

1. (currently amended) An infrared filter comprising:
a substrate
an optical filter stack disposed on a first surface of the substrate, the optical filter stack including
a plurality of dielectric layers, and
a plurality of metal layers alternating with the dielectric layers; and
~~a transmission-enhancing coating,~~
wherein the plurality of metal layers comprises at least four metal layers and wherein the infrared filter obtains an average transmission greater than or equal to 75% between 400 nm and 600 nm.
2. (original) The infrared filter of claim 1 wherein the metal layers comprise silver and further comprising a plurality of corrosion suppression layers disposed between the dielectric layers and the metal layers.
3. (original) The infrared filter of claim 2 wherein the metal layers comprise a first metal having a first galvanic potential and the corrosion suppression layers include a second metal having a second galvanic potential, the second galvanic potential being greater than the first galvanic potential.
4. (original) The infrared filter of claim 1 wherein the average transmission is not less than 80% between 400 nm and 600 nm.

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5. (original) The infrared filter of claim 1 wherein the dielectric layers comprise Nb_2O_5 , and the metal layers comprise silver.

6. (original) The infrared filter of claim 5 further comprising a plurality of ZnO layers disposed between the Nb_2O_5 layers and the metal layers.

7. (original) The infrared filter of claim 6 wherein each of the plurality of ZnO layers is about 1-10 nm thick.

8. (currently amended) The infrared filter of claim 1 comprising a transmission-enhancing coating disposed on a second surface of the substrate, wherein the transmission-enhancing coating is an anti-reflective coating.

9. (currently amended) The infrared filter of claim 1 further comprising a transmission-enhancing coating and a blur filter, the blur filter disposed between the transmission-enhancing coating and a second surface of the substrate.

10. (original) The infrared filter of claim 1 wherein the substrate comprises a birefringent material.

11. (original) The infrared filter of claim 1 wherein the infrared filter comprises a lid to a photodetector assembly, a photodetector array being disposed inside a package of the photodetector assembly.

Claims 12-21 (cancelled).

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22. (previously presented) An optical filter as defined in claim 1, wherein a first corrosion-suppressing layer separates one of the dielectric layers from a metal layer, and wherein a second corrosion-suppressing layer separates another of the dielectric layers from said metal layer.

23. (previously presented) An optical filter as defined in claim 22 wherein the stack of layers are of the form D1/C1/M1/C2/D2, wherein D1 is a first dielectric layer, C1 is a first corrosion-suppressing layer, M1 is a first metal layer, C2, is a second corrosion-suppressing layer, D2 is a second dielectric layer.

24. (previously presented) The infrared filter of claim 22 wherein the dielectric layers comprise Nb₂O₅.

25. (previously presented) The infrared filter of claim 22 wherein the metal layers comprise silver.

26. (previously presented) The infrared filter of claim 23 wherein the first corrosion-suppressing layer and the second corrosion-suppressing layer comprise a metal oxide.

27. (previously presented) The filter of claim 26 wherein the metal oxide is zinc oxide.

28. (previously presented) The infrared filter of claim 27 wherein each of the plurality of ZnO layers is about 1-10 nm thick.

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29. (previously presented) The filter of claim 26 wherein the first corrosion-suppressing layer is less than about 10 nm thick.

30. (currently amended) The filter of claim ~~12~~ 22 wherein the metal layer is a silver or silver alloy.

31. (currently amended) The filter of claim ~~12~~ 22 wherein the metal layer is less than 25 nm thick.

32. (previously presented) The infrared filter of claim 23 wherein the second corrosion-suppressing layer includes a metal portion on the metal layer M1, and a metal-oxide portion on the metal portion of the second corrosion-suppressing layer.

33. (currently amended) The infrared filter of claim 1, wherein the ~~optical~~ infrared filter has been thermally treated at a temperature above 200C.

34. (new) The infrared filter of claim 1, wherein the infrared filter has a low wavelength shift with angle of incidence.

35. (new) An infrared filter comprising:

a substrate

an optical filter stack disposed on a first surface of the substrate, the optical filter stack including

a plurality of dielectric layers, and

a plurality of metal layers alternating with the dielectric layers; and

a transmission-enhancing coating,

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wherein the infrared filter obtains an average transmission greater than or equal to 75% between 400 nm and 600 nm, and

wherein the infrared filter comprises a lid to a photodetector assembly, a photodetector array being disposed inside a package of the photodetector assembly.